UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,753	03/03/2000	James F. Arnold	SRI1P013X1	6922

7590 03/09/2005

MOSER PATTERSON & SHERIDAN LLP
595 Shrewsbury Avenue - Suite 100
Shrewsbury, NJ 07702

EXAMINER	
FLYNN, KIMBERLY D	

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/518,753	ARNOLD ET AL.	
	Examiner	Art Unit	
	Kimberly D Flynn	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 9-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. This action is in response to a response and Amendment filed September 30, 2004. Claims 7 and 8 are cancelled and claims 1-6 and 9-34 are presented for further consideration.

Claim Rejections – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 9-31, and 34 are rejected under 35 U.S.C. 103(a) Gupta et al. (6,763,384; hereinafter Gupta) in further view of Boyle et al. (U.S. Patent No. 6,665,711; hereinafter Boyle).

In considering claims 1, 14, and 34, Gupta discloses a system and method for transmitting a packet of data from a first computing system to a second computing system, the first computing system and the second computing system being included in a client/server object-based computing system, wherein the first computing system is a server (See Fig. 4; application server) and the second computing system is a client (clients 1-n), the method comprising:

identifying the packet of data using the first computing system (Col. 6, lines 54-56), wherein the second computing system (client) is listening (col. 5, lines 49-51), wherein the packet of data includes data which represents an object in the client/server

object-based computing system, the object been identified as an object which the second computing system (client) has an interest in receiving updates (col. 5, lines 43-47).

attempting to send the packet of data from the first computing system (server) to the second computing system (client) (col. 6, lines 54-56);

While Gupta discloses sending updates to a client over the network, Gupta does not disclose the steps of determining when the packet of data is received by the second computing system and sending an acknowledgment from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system. Nonetheless, sending an acknowledgement upon receipt of data is well known as evidenced by Boyle.

In similar art, Boyle discloses a system for integrating narrowband and wideband transports wherein when messages are successively and individually sent to the client device an acknowledgment is received (see Boyle, col. 16, lines 3-8). Given the teachings of Boyle it would have been obvious to a person having ordinary skill in the art to modify the system disclosed by Gupta to include the step of sending acknowledgements upon the receipt of data in order to inform the server that the data has been received. Acknowledgements are advantageous because they help to improve reliability of systems. Therefore the aforementioned limitations would have been an obvious modification to the system as disclosed by Gupta.

In considering claims 2-3 and 15-16, Gupta discloses a method and computer program product further including re-attempting to send the packet of data from the first computing

system to the second computing system when it is determined that the packet of data is not received by the second computing system (see Boyle, col. 16, lines 3-10).

In considering claims 4 and 17, Gupta discloses a method and computer program product further including determining when the reattempt to send the packet of data is successful, wherein when it is determined that the re-attempt to send the packet of data is not successful, an attempt is made to establish communications between the first computing system and the second computing system (Gupta discloses that after the server transmits the data the connection is terminated (see Gupta col. 12, lines 44-49) it would have been obvious to a person having ordinary skill in the art to recognized that once the connection is terminated it must be reestablished in order to resend data or re-attempt to send data).

In considering claims 5 and 30, the combined system of Gupta and Boyle discloses establishing a connection between the first computing system and the second computing system before identifying the packet of data, the connection being a wireless connection (See Boyle fig. 4, means 108).

In considering claim 6, the combined system of Gupta and Boyle discloses a method wherein attempting to send the packet of data from the first computing system to the second computing system includes:

placing the packet of data in a queue using the first computing system, the queue being arranged to prioritize the packet of data with respect to any packets of data associated with the queue and removing the packet of data from the queue using the second computing system (see Boyle, col. 16 lines 19-24).

In considering claims 9-10 and 18-19, the combined system of Gupta and Boyle discloses a method, and computer program product, for transmitting a packet of data from a first computing system to a second computing system, the first computing system and the second computing system being included in a client/server object-based computing system, wherein the first computing system is a server and the second computing system is a client, the method comprising:

attempting to send the packet of data from the first computing system to the second computing system (see Gupta, col. 6, lines 54-56);

determining when the packet of data is received by the second computing system; identifying the packet of data as being successfully sent when it is determined that the packet of data is received by the second computing system; assuming that packet losses have occurred when it is determined that the packet of data is not received by the second computing system, wherein assuming that packet losses have occurred includes repeating a) and b) for up to a predetermined number of times (see Boyle col. 16, lines 3-10)..

In considering claim 11, the combined system of Gupta and Boyle discloses a method wherein a time differential between each attempt at repeating a) and b) is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received (see Boyle col. 16, lines 7-10; timeout).

In considering claim 12-13, the combined system of Gupta and Boyle discloses a method wherein when attempting to send the packet of data from the first computing system to the second computing system, and determining when the packet of data is received by the second computing system have been repeated a predetermined number of times (see Boyle col. 16, lines

7-10; timeout) at least one attempt is made to establish a connection between the first computing system and the second computing system (see Gupta col. 12, lines 44-49) it would have been obvious to a person having ordinary skill in the art to recognized that once the connection is terminated it must be reestablished in order to resend data or re-attempt to send data).

In considering claim 20, the combined system of Gupta and Boyle discloses a computer program product further including computer code for initiating at least one attempt establish a connection between the first computing system and the second computing system when it is determined that the reattempt to send the packet of data is unsuccessful (see Gupta col. 12, lines 44-49) it would have been obvious to a person having ordinary skill in the art to recognized that once the connection is terminated it must be reestablished in order to resend data or re-attempt to send data).

In considering claim 21 and 25, the combined system of Gupta and Boyle discloses a client/server object-based computing system, the client/server object-based computing system, wherein the first computing system is a server and the second computing system is a client, comprising:

at least one server (see Gupta Fig 4. application server, 20);

at least one client (see Gupta Fig. 4, clients 114-118), the at least one client being at least periodically in communication with the server across a low-bandwidth communications channel (See Boyle Fig. 2, Narrowband channel 204).

a mechanism arranged to reduce statistical information associated with the client/server object-based computing system, the mechanism including a measuring system for measuring

time elapsed for a packet of data to be sent between the at least one server and the at least one client (see Boyle col. 16, lines 7-10; timeout).

a data transmission system, the data transmission system being arranged to transmit data between the at least one client and the at least one server, the data transmission system further being arranged to repeatedly attempt to transmit the data for up to a number of times determined by the mechanism(see Boyle col. 16, lines 7-10); and

a reconnection system, the reconnection system being arranged to attempt to reinstate the low-bandwidth communications channel after the transmission system repeatedly attempts to transmit the data for up to the number of times determined by the mechanism (see Gupta col. 12, lines 44-49) it would have been obvious to a person having ordinary skill in the art to recognized that once the connection is terminated it must be reestablished in order to resend data or re-attempt to send data).

In considering claim 22 and 31, the combined system of Gupta and Boyle discloses a system wherein the low-bandwidth communications channel is an RF link (see Boyle fig. 1, 120).

In considering claim 26-29, the combined system of Gupta and Boyle discloses a method further including:

determining a number of times attempts are made to re-send the first packet, wherein the number of times is determined using the statistical information; and repeating determining when the first packet is received by the second computing system and attempting to re-send the first packet after the amount of time elapses for up to the number of times (see Boyle col. 16, lines 7-10; timeout).

In considering claim 23, the combined system of Gupta and Boyle discloses a system wherein the data transmission system is further arranged to optimize the time elapsed between repeated attempts to transmit the data using the statistical information reduced by the mechanism (see Boyle col. 16, lines 7-10; timeout).

In considering claim 24, the combined system of Gupta and Boyle discloses a system wherein the data transmission system and the mechanism are arranged to cooperate to substantially optimize communications bandwidth associated with the client/server object-based computing system (see Boyle col. 6, lines 21-25).

4. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta and Boyle et al. as applied to claim 25 above, and further in view of Mangold et al. (5,926,232).

In considering claim 32, although Gupta and Boyle shows substantial features of the claimed invention, they fail to disclose a method wherein gathering the statistical information further includes measuring long-term and short-term packet loss rates. However, Mangold et al., whose invention is a method for optimizing the transmission of signals, discloses such a method wherein gathering the statistical information further includes measuring long-term and short-term packet loss rates (residual error rate) (see col. 2, lines 14-24, lines 35-40. Therefore, given the teachings of Mangold et al., it would have been obvious for a person having ordinary skills in the art to modify Gupta and Boyle by includes measuring long-term and short-term packet loss rates within the gathering of the statistical information in order to determine the overall pattern characteristics (e.g. burstiness) of the packet loss rates.

In considering claim 33, Official notice is taken regarding the measuring of long-term and short-term packet loss rates includes assuming that packet loss is due to one selected from

the group consisting of congestion in the client/server object-based computing system, interference in the client/server object-based computing system, and obstruction in the client/server object-based computing system. It would have been obvious for one of ordinary skill in the art at the time of the invention to assume that packet losses can result from congestion, interference, and obstruction. Common conditions such as full buffers/queues (congestion), mixed wireless signals (interference), and limited line-of-sight (obstruction) all lead to packet losses. Although Gupta, Boyle, and Mangold et al. never specify interference and congestion being possible causes of packet loss, they are an obvious modification to the methods and systems disclosed by the combined system of Gupta, Boyle, and Mangold.

Response to Arguments

5. Applicant's arguments, filed September 30, 2004, with respect to the rejection(s)of claim(s) 1-6 and 9-34, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Gupta in view of Boyle.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly D Flynn whose telephone number is 571-272-3954. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571-272-3607.

Kimberly D Flynn
Examiner
Art Unit 2153

KF
March 7, 2005

MOUSTAFA M. MEKY
PRIMARY EXAMINER